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C12R 1:865), (C12N 9/12 , C12R
1:19)

TITLE : NEW KINASE BEARING INFORMATION
TRANSMISSION SYSTEM OF
TGF-BETA FAMILY

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                              ATG TCG ACA GCC TCC GCC    174
                              Met Ser Thr Ala Ser Ala
                               1                 6
GCC TCG TCC TCC TCC TCG TCT TCT GCC AGT GAG ATC ATC GAA GCG CCG   222
Ala Ser Ser Ser Ser Ser Ser Ser Ala Ser Glu Met Ile Glu Ala Pro
             10              15              20
TCG CAG GTC CTG AAC TTC GAA GAG ATC GAC TAC AAG GAG ATC GAG GTC   270
Ser Gln Val Leu Asn Phe Glu Glu Ile Asp Tyr Lys Glu Ile Gln Val
         25              30              35
                                          :
                                          :
                                          :
AAC AAA ACC CTT TCT ACT TAT TAC CAG CAA TGC AAA AAA CAA CTA GAG   1854
Asn Lys Ser Leu Ser Thr Tyr Tyr Gln Gln Cys Lys Lys Gln Leu Glu
             555             560             565
GTC ATC AGA AGC CAA CAG CAG AAA CGA CAA GGC ACT TCA TGATTCTCTG   1903
Val Ile Arg Ser Gln Gln Gln Lys Arg Gln Gly Thr Ser
             570             575
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ABSTRACT : PROBLEM TO BE SOLVED: To obtain a new DNA coding a kinase-active polypeptide subject to activation by a transforming growth factor-β having a specific amino acid sequence, and to be used for e.g. producing enzymes useful for retrieving medicinal agents suppressing or promoting information transmission.

SOLUTION: This new DNA is such one as to code a kinase-active polypeptide subject to activation by a transforming growth factor-β (TGF-β) having the amino acid sequence covering the 23rd Ser through 579th Ser of an amino acid sequence of the formula, or an amino acid sequence modified by addition or elimination of one to several amino acids to or from the above partial amino acid sequence, and/or by substitution with other amino acid(s). This DNA is useful for e.g. producing kinase-active polypeptides useful for e.g. retrieving medicinal agents suppressing or promoting cell information transmission. This new DNA is obtained by screening with a probe a cDNA library prepared by using a mRNA collected from a mouse interleukin-3 dependent cell system.